Cephalic plates black; an imperfect postocular cross-band. *ELEGANS Jan.
Red, bordered with black. SURINAMENSIS Cuv.
b. Neck covered by the black collar.
Post-frontals touching the labials. *GRAVENHORSTII Jan.
Post-frontals not touching the labials;
Genial shields entirely black. MELANOGENYS Cope.
Red or yellow;
Scales between middle and outer black ring red. ISOZONUS Cope.
Black with large white spots. DISSOLEUCUS Cope.
†† Occipital shields not traversed by a black collar or half-collar.
a. Rings absent on the belly, divided and alternating above. ALTERNANS D. & B.
b. Rings entire;
The middle one of each three more than twice as wide as the outer. *DUMERILII Jan.
Not more than twice as wide as the outer,
But twice as wide as the red spaces between the triads. HEMPRICHII Jan.
Not twice as wide.
First black ring just touching occipitals ISOZONUS Cope.
Some distance behind them;
Before the eyes uniform black. *MARCGRAVII D. & B.
A red band. LEMNISCATUS Schn.

B. Postoculars one.

Body very slender. FILIFORMIS Gthr.

Species 57. Platurus fasciatus *Daud.*, add
One sp. Raiatea. Dr. J. Wilson, U. S. N.

Species 63. Pelamis bicolor *Daud.*, add
One sp. Pacific coast of Panama. Dr. J. Wilson, U. S. N.

We correct the following typographical errors in the Catalogue:—
Page 332, line 20, for "those" read these.
" 333, " 35: for "Proteroglyphis" read Proteroglyphes.
" 338, " 12: for "Dr. Coleman Pemberton" read Dr. J. P. Coleman.
" 338, " 19: for "plants" read flanks.
" 341, Pelias berus: for "var. niger *Bell*," read var. prester *Linn.*
" 342, line 11: for "BRACHYCHRANION," read BRACHYCRANION.
" 343, " 19: for "H. pallidiceps *Gray*" read H. pallidiceps, *Gthr.*
" 343, " 33: for "SEPEDON Cuvier" read SEPEDON Merrem.
" 344, Bungarus fasciatus: for "Three sp." read Five sp.
" 345, line 37: for "E. Bertholdi," read E. Bibroni.
" 347 " 5: for "Hydrophia," read Hydrophis.

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## Catalogue of Colubridæ in the Museum of the Academy of Natural Sciences of Philadelphia. I. Calamarinæ.

BY E. D. COPE.

### 4. COLUBRIDÆ.

*Essential char.*—Superior maxillary bone horizontal, articulating with the anterior frontal by a lateral process; its anterior prolongation bearing teeth neither perforated nor channelled for the reception of a venom duct. The posterior prolongation uniting to the ectopterygoid by a horizontal, oblique

articulation. Superior processes of the caudal vertebræ not elongated; hypapophyses bifid.

*Char. not universal.*—Top of head plated. Belly protected by broad plates. Tail cylindrical. Penis simple.*

The Chersydrus granulatus has a compressed tail somewhat resembling that of the sea snake's, and adapted to habits similar in many respects. Yet even in external form it bears a greater resemblance to that of some of the Boas, having a prehensile character. A comparison of the caudal vertebræ of this serpent and the Hydrophis pelamidoides shows the following differences: In the latter the neural spines are slender and greatly elongated, and the pleurapophyses† slender, elongated, and but little diverging. The "appendages" of the latter, which in all serpents appear in the last dorsal and first caudal vertebræ, and are doubtless the homologues of the re-verted processes on the ribs of birds, partake of the same nature. The hypapophyses are similar to those of the dorsal vertebræ, being undivided, with the exception of those upon the first two vertebræ, whose pleurapophyses are destitute of the appendage. These are slightly bifid.

In the Chersydrus the structure is entirely that of the Colubers. The neural spines are short and compressed; the pleurapophyses short and diverging; and the hypapophyses bifid, and their lateral moieties separated. Thus in addition the difference in the armature of the mouth, the structure of the tail separates this genus from the sea snakes. Its position appears to us to be between the Homalopsinæ and Boidæ,—connected to the latter by Xenodermus *Reinwt.*, as indicated by Dumeril and Bibron.

## *CALAMARINÆ.*

CALAMARIA Boie. Type C. Linnaei.

Isis, 1827, p. 519.

65. C. Gervaisii *D. & B.*, vii. p. 63.

| | | |
|---|---|---|
| Four sp. | Philippine Is. | Mr. Cuming. |
| One (young). | " | " |

ASPIDURA Wagler. Type A. brachyorrhos.

Naturlich. Syst. der Amphib. p. 191.

66. A. brachyorrhos, Gthr. Cat. Brit. Mus. 14. *Scytale brachyorrhos* Boie. Isis, 1827, 517. *A. scytale*, D. & B., vii. 178 ("Wagler" D. & B. et Gthr.).

| | | |
|---|---|---|
| One sp. | Ceylon. | Mr. Cuming. |

67. A. trachyprocta *nobis.*

Form stout, not elongate. Tail short, thick, one-eighth of total length. Scales in fifteen rows, broad, not imbricate, smooth. The scales in the four or five rows each side of the anus, for a distance of from four or five scales in front to nine or ten behind the anus, are marked each with a small recurved tubercle near the anterior border. Anal shield entire. Superior labials six, last largest; the eye resting on the fourth. Inferior labials five. Posterior pair of genial shields separated by a central complementary plate. Head shields similar to those of A. brachyorrhos, except that the occipitals are more rounded posteriorly, and the lower postoculars larger. Gastrosteges 135, 1 entire anal, 21 entire urosteges, and a small central postanal plate. Total length 8 in. 2 l. Tail 1 in.

*Coloration.*—Upper surface of head and body deep brown, becoming lighter on the third and fourth longitudinal rows of scales, and contracted on the tail to a narrow mediän vitta. A blackish brown band passing through the eye,

*Coronella cana is one exception, fide Schlegel.

†These were inadvertently alluded to, Proceedings, 1859, p. 333, as "hæmal spines."

and along the adjacent edges of the scales of the second and third rows, indistinct on the sides, but distinct on the tail. Superior labials and throat yellowish; belly grayish, largely varied with black, which forms an irregular longitudinal band.

This is a more robust serpent than the well-known brachyorrhos, and has a shorter and thicker tail. While this has 21 urosteges, our specimen of the other has 32. The latter has the scales in 17 rows (15 Günther), and they are more elongate and imbricate; it has not the supplementary geneial plate, and above all, the peculiar tuberculation of the ischiadic region. This exists elsewhere only—as far as we know—in the Trachischium rugosum *Gthr.*, of the Himmelayas, also a Calamarian, and is donbtless an assistance to the animals in burrowing in the earth, and among unyielding objects.

Another difference between this serpent and the brachyorrhos is seen in the less elongated form of the head of the former, the rather shorter labials, and much shorter geneials. The eye, too, is a trifle longer, and more anterior. The coloration is quite different; we only note here, the absence of the large neck spots in trachyprocta.

| | | |
|---|---|---|
| One sp. | Ceylon. | Mr. Cuming. |

HALDEA Baird & Girard. Type H. striatula.

Catal. Rept. Smiths. Inst. Serp. p. 122, 1853. *Conocephalus* Dumeril. Prodrome de la Classification des Reptiles Ophidiens, pp. 43 et 46, 1852, and Günther Cat. Brit. Mus. p. 17. Not of Thunberg, 1812, (Orthoptera.)

68. H. striatula *B. & D.* *Conocephalus striatulus* D. & B., Erp. Gen. et Gthr. l. c.

| | | |
|---|---|---|
| Two sp. | S. Carolina. | Dr. Edwd. Hallowell. |
| One sp. | N. Carolina. | ? |
| One sp. | Richmond, Va. | Smithsonian Inst. |
| One sp. | N. America. | ? |

TROPIDOCLONION nobis. Type T. lineatum.

*Microps* Hallowell Proc. Acad. Nat. Sci. viii. 1856. Not of Megerle, 1823, (Coleoptera Oedemeritæ.)

This genus is allied to Ischnognathus *D. & B.* Streptophorus and Elapoidis agree with it in having divided urosteges, carinate scales and two internasals, but differ thus, Streptophorus, two post-, no preocular; Elapoidis, one post-, two preoculars; Tropidoclonion, two post-, one preocular.

69. T. lineatum *nob.* *Microps lineatus* Hallow. l. c.

| | | |
|---|---|---|
| Two sp. | Kansas. | Dr. Hammond. |

STREPTOPHORUS D. & B. Type S. Sebæ.

Erp. Gen. vii. 514.

70. S. Sebæ *D. & B.* *Elapoides fasciatus* Hallow. Journ. Acad. iii. 35, pl. 4.

| | | |
|---|---|---|
| One sp. | Honduras. | Dr. Woodhouse. |
| Two sp. | ? | Gard. of Plants. |

71. S. atratus *nobis.* *Coluber atratus* Hallow. Proc. Acad. Nat. Sci. ii. p. 245, 1845. *Streptophorus Drozii* D. & B. vii. 518, 1854, Günther l. c.

We are glad to be able to restore the name given by Dr. Hallowell to this species many years before that of the Erpetologie Generale. The specimen described by him is rather paler than the others—justifying the expression, "lead colored." The "six" superior labials is an anomaly, other specimens having seven. None of the specimens have the dark color on the chin and throat mentioned by Dumeril—but this is not probably an important character, as Günther does not allude to it.

| | | |
|---|---|---|
| Four sp. | Venezuela, within 200 miles of Caraccas. | Dr. Ashmead. |

72. S. bifasciatus *D. & B.* vii. 520.—In this species the carinæ are very strong, and present on every row of scales. It is of a slender, elongate form as mentioned by its describers, resembling the species of Ablabes in its proportions. For this reason we question the propriety of removing this genus from the neighborhood of Ischnognathus, where Dumeril places it, and it is only the Calamarian form of S. atratus that induces us to consent to the position assigned by Günther. Our specimens of species being fresh, we will note: that the superior surface is not properly black, but deep slate; and that the collar and inferior labial plates are light yellow. The black upon the *gastrosteges* covers an extent rather wider than each white lateral band.

Three specimens, Jalapa, Mexico, Sr. Rapfhael M. De Oca.
One " " Mr. Pease.

TANTILLA Bd. & Grd. Type T. coronata.

Catalogue Serp., p. 131.

This genus appears to be quite distinct from Rhabdosoma *D. & B.*, being characterized by a more slender body, longer tail, divided anal, and a loreal plate, either united to the postfrontals or wanting. The latter two peculiarities also distinguish it from Rhabdion *D. & B.* Posterior maxillary teeth equal to the anterior, smooth. Perhaps Rhabdosoma elaps *Gthr.* l. c. 241, belongs here; its anal scute is, however, entire.

73. T. Hallowelli *nob.* *Tantilla gracilis* Hallow., Proc. Acad. Nat. Sci. viii. p. 246.

This species is accurately described as cited, and the differences between it and T. gracilis pointed out. These, we think, are of specific value, and accordingly name it after Dr. Hallowell, as a slight recognition of his many valuable contributions to herpetology.

The form of this species is more like that of Haldea striatula *B. & G.*, than Carphophiops amoena. The locality, "Indianola," assigned by Dr. Hallowell, is probably a mistake, being copied from Baird & Girard's Catalogue. We have one specimen brought from Kansas by Dr. Hammond.

74. T. reticulata *nob.*—Vertical plate broad, slightly angular in front, projecting posteriorly for half its length between the occipitals. Occipitals and both pair of frontals rather broad. Rostral broad, visible from above. Nostril in the posterior part of prenasal; postnasal in contact with first and second superior labials, preocular, post- and prefrontals. Two postoculars, upper one in contact posteriorly with the occipital, the lower touching one temporal. A second temporal equal to the first, and a third very small one behind it. Superior labials, seven last largest, third and fourth entering the orbit both low. Four genеials, anterior in contact with inferior rostral. Scales in fifteen rows, last one slightly larger. Gastrosteges 148, postabdominal 1 divided, urosteges 67 pair. Total length 10 in. 3 l.; tail 3 in.

Color above chestnut brown, much darker posteriorly, extending upon the tips of the gastrosteges. Anteriorly the scales are edged with darker, presenting a reticulated appearance. Central dorsal row of scales lighter, forming a pale vitta, disappearing on the tail. Third and fourth rows on each side also lighter, forming indistinct bands. A collar of the same pale yellow brown crosses the ends of the occipitals. Cephalic plates clouded and edged with darker; a deep brown mark extending from the occipitals to the mouth across the yellowish labials. Beneath pale yellow, deepening posteriorly.

One specimen, Cocuyas de Veraguas, New Grenada, R. W. Mitchell.

This species seems to be much like the T. coronatum *B. & G.*, but has a much longer tail, and broader head-shields; the upper post-ocular, not the lower, is in contact with the temporal in the latter. See Pacif. R. R. Report, x. Reptiles, pl. 38, fig. 96.

Rhabdosoma D. & B. Type R. semidoliatum.
Erpet. Gen. vii. 90.

75. R. semidoliatum *D. & B.*

| | | |
|---|---|---|
| Two specimens, | Mexico, | ? |
| Six " | Jalapa, Mexico, | Sr. R. M. De Oca. |
| One " (young) | " " | Mr. Pease. |

This species appears to be very common in central Mexico. The spaces between the black spots on the dorsal region, described by authors as white, are in life of a beautiful vermillion color.

76. R. fuliginosum *nobis.* *Coluber fuliginosus* Hallowell, Proc. Acad. Nat. Sci. ii. p. 243, 1845. ? *Isoscelis et Rhabdosoma maculatum* Günther, Cat. Brit. Mus. 204, 241, 1858.

Six superior maxillary teeth on each side in a continuous series, the anterior longer than the posterior, but not longer than the middle two. Seven inferior maxillaries on each side regularly increasing in length anteriorly. This peculiar dentition induced us to consider this serpent a Lycodont, but subsequent examination and comparison with Dr. Günther's description of his Rhabdosoma maculatum has persuaded us that the two species are very similar, possibly identical. The most material difference is, that the maculatum has seven superior labial plates, the fuliginosum six. Of those of the latter, the third is elongated, and with the fourth entering the orbit. Genеials one pair; vertical broader in front than its greatest length. Postoculars two, temporals three; loreal long and narrow. Color reddish brown, a darker shade crossing each occipital obliquely and uniting behind them into a dorsal band, which is soon broken into spots. These are obsolete on the middle and hinder part of the body. No lateral series of spots. Belly immaculate. See Hallowell l. c.

| | | |
|---|---|---|
| One specimen, | Near Caraccas, | Dr. S. A. Ashmead. |

77. R. torquatum *D. & B.* vii. p. 101. "*Brachyorrhos torquatus* H. Boie, Erpét. de Java."

Superior labials eight, fourth and fifth coming into the orbit. One postocular; one pair of geneials. The color of our specimen is a very deep brown, so dark that the transverse series of black spots can only be seen in certain lights. The opalescent play of colors is unusually beautiful on this account. Beneath dark brown, posteriorly finely punctulated with darker.

| | | |
|---|---|---|
| One specimen, | Surinam, | Dr. Hering. |

78. R. crassicaudatum *D. & B.* vii. 103.

Seventeen longitudinal rows of scales; two postoculars; seven superior labials, third and fourth entering the orbit. In these important particulars our specimen is similar to those of Dumeril, but the coloration is totally distinct. Though much bleached by the alcohol, the animal was, probably, pale brown, each scale tipped with darker, with a dorsal vitta of the same extending from the occipitals to the end of the tail. Beneath yellow, immaculate.

| | | |
|---|---|---|
| One specimen, | Surinam, | Dr. Hering. |

Carphophiops Gervais. Type C. amoena.

Dict. Nat. Hist. Univers. (dir. par M. C. D'Orbigny,) iii. p. 191, 1843. *Carphophis* Dumeril, Prodrome de la class. des Rept. Ophidiens, pp. 43 et 46, 1852. Erp. Gen. vii. p. 131, 1854. Günther l. c. 17, 1858. Not of Gervais l. c. 191, 1843. *Celuta* B. & G., Cat. Serp. 129, 1853.

This genus is characterized by Gervais as cited, who refers to Dumeril and Bibron; but we cannot find it published by the latter prior to 1852. Carphophis *Gerv.* has the characters of Calamaria *Boie*, and hence cannot be applied to the Coluber amoenus Say.

79. C. amoena *nobis*. *Coluber amaenus* Say, Jour. Acad. Nat. Sci. iv. 237. *Calamaria amoena* Schl. Ess. Phys. Serp. 31. *Brachyorrhos amoenus* Holbr. Am. Herp. iii. 115. *Carphophiops vermiformis* Gervais, Dict. Univ. d'Hist. Nat. iii. 191. *Carphophis amoena* Dum. & Bibr. vii. 131. *Celuta amoena* B. & G. l. c. 129.

| | | | |
|---|---|---|---|
| Four | specimens, | Pennsylvania, | ? |
| Two | " | " | Drs. Holbrook and Hallowell. |
| " | " | Beesley's Point, N. J., | Mr. Samuel Ashmead. |
| One | " | Cape May Co., N. J., | Mr. Tiffany. |
| " | " | Virginia, | Jno. Cassin, Esq. |
| Two | " | S. Carolina, | Smithsonian Institution. |
| One | " (young) | | Dr. Harlan. |

VIRGINIA Bd. & Grd. Type V. Valeriae.

Catal. Rept. p. 127.

This genus is characterized by the elongated form of the shields of the head, and the distinctness of the latter from the body. There are two small nasal plates, as in Rhabdosoma.

80. V. Valeriae Bd. & Grd. l. c.

| | | |
|---|---|---|
| One specimen, | ? | ? |

HOMALOSOMA Wagl. Type H. lutrix.

Nat. Syst. Amph. 190, 1830.

81. H. lutrix *D. & B.* vii. p. 110.

| | | |
|---|---|---|
| Two specimens, | Cape of Good Hope, | Garden of Plants. |

OLIGODON Boie. Type O. subquadratum.

Isis 1827, p. 519.

82. O. sublineatum *D. & B.* vii. p. 57.

| | | |
|---|---|---|
| One specimen, | Ceylon, | Mr. Cuming. |

Genera 11. Species 18. Specimens 54.

The stoutness of the body and tail, and the shortness of the latter, the indistinctness of the head, and the general firmness and rigidity, are characters by which the greater number of the species of this sub-family may at once be recognized. But as in some genera, certain of these peculiarities vanish, thus approximating them to other groups, we have followed M. Dumeril in employing the dentition, which is here quite characteristic. Elsewhere, however, it evidently fails to characterize natural groups, as urged by Dr. Günther in his invaluable catalogue of the Colubrine snakes in the British Museum. We have, therefore, omitted the genera Rhinostoma, Phimophis * and Homalocranion, which have the posterior superior maxillaries grooved, and are perhaps more nearly allied to Scytale. A single specimen of Scytale coronatum, of a variety near that called S. Neuwiedii in the Erpetologie Generale was described by us, Proc. of this Acad., 1859, p. 294, as Olisthenes euphaeus. Our conviction of its generic distinctness was grounded upon the peculiar form of the rostral plate, which while offering strong characters among some serpents, here varies with the individual.

* Phimophis Guerini, the only species. It is Rhinosimus Guerini of Dumeril and Bibron, but the generic name was applied to certain species of Curculionidæ, by Latreille, more than fifty years previously.